

What is claimed is:

1. An acryl-modified polyester resin composition produced by a polymerization of a polyester resin intermediate of formula (1) and an acryl monomer:



wherein R represents a polyester polymer residue, and X represents a methyl or carboxylic group.

10                  2. The composition of claim 1, wherein the polyester resin intermediate has an average molecular weight of about 1500 to 15000, a hydroxyl value of about 1 to 20 mgKOH/g, and an acid value of about 3 to 30 mgKOH/g.

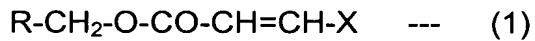
15                  3. The composition of claim 1, wherein the acryl monomer is at least one selected from the group consisting of styrene, acrylonitrile, acrylimide, diacetone acrylimide, methylacrylate, butylmethacrylate, laurylmethacrylate, acrylic acid, methylmethacrylate, ethylacrylate, butylacrylate, ethylmethacrylate, glycidylmethacrylate, 2-hydroxyethylmethacrylate, 2-hydroxyethylacrylate and hydroxypropylacrylate.

20                  4. The composition of claim 1, wherein the acryl monomer undergoes a radical reaction at a temperature of about 80 to 140°C.

5. A method of preparing an acryl-modified polyester resin composition comprising:

25                  i ) condensing a polyhydric alcohol and a polybasic acid in a solvent to give a polyester resin;

ii) polymerizing the polyester resin and an unsaturated polybasic acid to give a polyester resin intermediate of formula (1) having a carbon-carbon double bond at one end,



5 wherein R represents a polyester polymer residue, and X represents a methyl or carboxylic group; and

iii) polymerizing the polyester resin intermediate and an acryl monomer to give the acryl-modified polyester resin composition.

10 6. The method of claim 5, wherein the polyester resin intermediate has a average molecular weight of about 1500 to 15000, a hydroxyl value of about 1 to 20 mgKOH/g, and an acid value of about 3 to 30 mgKOH/g, and wherein a content of the the polyester resin intermediate is about 30 to 80% by weight based on a total weight of a resultant of step ii ).

15 7. The method of claim 5, wherein the polyester resin intermediate and the acryl monomer are polymerized by adding the acryl monomer together with an initiator at least one selected from the group consisting of isobutyl peroxide, tert-butylperoxyneodecanoate, octanonyl peroxide, benzoyl peroxide, acetyl peroxide, di-20 tert-butyl peroxide, azoisobutyronitrile and tert-butylperoxylaurate.

25 8. The method of claim 5, wherein the polyester resin intermediate and the acryl monomer are polymerized by copolymerizing about 100 parts by weight of the polyester resin intermediate and about 5 to 100 parts by weight of the acryl monomer.

9. The method of claim 5, wherein the polyhydric alcohol is at least one selected from the group consisting of ethylene glycol, propylene glycol, 1,4-butylene glycol, 1,5-pentanediol, 1,6-hexanediol, neopentyl glycol, methyl propanediol, cyclohexane dimethanol and trimethylpentanediol,

5 and wherein the polybasic acid is at least one selected from the group consisting of phthalic anhydrides, tetrahydrophthalic anhydrides, hexahydrophthalic anhydrides, isophthalic acid, terephthalic acid, adipic acid, azelaic acid, sebacic acid and cyclohexanediacid,

10 and wherein the unsaturated polybasic acid alcohol is at least one selected from the group consisting of maleic acid, maleic anhydrides, fumaric acid, itaconic acid and itaconic anhydrides.